

Amendments to the Specification

Please replace the paragraph beginning at page 29, line 13, with the following rewritten paragraph:

As shown in Fig. 3(a), the blade member can output the maximum stress in the vertical state of its plane, and its output stress is gradually attenuated as its plane undergoes state change from the vertical state to the horizontal state. When its plate state is in the horizontal state, the blade member receives wind resistance and comes to output negative stress and acts as a brake. Therefore, with a single blade member the output characteristic of the drive power apparatus 10 fluctuates as shown in Fig. 3(a). Specifically, the blade member can output the maximum stress when and only when the rotation angle of the vertical shaft is 90 degrees, ~~240~~ 450 degrees and so forth. On the other hand, in the case of a plurality of blade members, some of these blade members receive wind power, and the drive power apparatus 10 thus receives wind power more uniformly. Thus, as shown in Fig. 3(b), the drive power apparatus 10 can obtain a flat output characteristic, that is, a characteristic of outputting the maximum stress or stress close thereto with any rotation angle of the vertical shaft 12, and the vertical shaft 12 can be rotated smoothly.

Please replace the paragraph beginning at page 30, line 24, with the following rewritten paragraph:

With the 180 degree symmetry arrangement of the

first blade members ~~20~~ 19, 21 and 23 and the second blade members 20, 22 and 24 with respect to the center of the vertical shaft, only a single blade member is present in one horizontal plane. Thus, the first and second blade members 19 to 24 each never come to be leeward of other blade members, and never act as brakes. In the drive power apparatus 10, the first and second blade members 19 to 24 are smoothly operable and, in consequence, it is possible to obtain improved rotational efficiency of the vertical shaft 12. For this reason, it is again preferable to dispose two vertical blades as a pair in the 180 degree symmetry arrangement with respect to the center of the vertical shaft 12.

Please replace the paragraph beginning at page 35, line 19, with the following rewritten paragraph:

At the no load no wind time, the first and second blade members 19 to 24 remain stationary with their plane orientations at a downward angle of 34 degrees from horizontal plane. When the first and second blade members 19 to 24 receive wind in this state, they function such that one of them receive wind power. It is now assumed that the first and second blade members 19 to 24 are in their positions as shown in Fig. 2. At this time, the planes of the first blade members 19, 21 and 23 are directed in the direction to receive wind W (i.e., vertical direction with maximum resistance of wind W), and the planes of the second blade members 20, 22 and 24 are directed in the direction to pass wind W (i.e., horizontal direction with no or minimum resistance of wind W). The first blade members 19, 21 and 23 receiving

the power of wind W pushes the horizontal shafts 16 to 18 in a predetermined direction (i.e., counterclockwise direction at this time), and the horizontal shafts 16 to 18 thus rotate the vertical shaft 12.

Please replace the paragraph beginning at page 43, line 9, with the following rewritten paragraph:

The rotation momentums around the horizontal shafts 16 to 18 generated by the gravitational force are preferably as low as possible (preferably zero or a value close thereto). For making the rotation moments to be as low as possible, the load member ~~10~~ 103, for instance, is disposed in the small area part 102. By so doing, the weight balance adjustment of the first and second blade members 19 to 24 are made. At this time, the load member 103 is preferably disposed at a position as close to each of the horizontal shafts 16 to 18 as possible for the following reason.

Please replace the paragraph beginning at page 43, line 26, with the following rewritten paragraph:

To make the rotation momentums of the first and second blade members 19 to 24 lower, the horizontal shafts 16 to 18 may be disposed centrally of the first and second blade members 19 to 24.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended) : A drive power apparatus
2 utilizing winds comprising:

3 a vertical shaft disposed vertically and rotatably;
4 a rotatable horizontal shaft rotatably perpendicularly
5 penetrating the vertical shaft;

6 a first and a second plate-like blade member provided
7 on the horizontal shaft on the opposite sides of the
8 vertical shaft; and

9 a drive power mechanism operable with the rotation of
10 the vertical shaft;

11 wherein the first and second blade members are secured
12 to the horizontal shaft such that their plane orientations
13 are deviated from each other by an angle of 90 degrees in
14 the peripheral direction of the horizontal shaft, and are
15 rocked about the horizontal shaft in an interlocked
16 relation to each other between the vertical and horizontal
17 directions,

18 wherein each of the horizontal shaft crosses the first
19 and second blade members to define, in each of the first
20 and second blade members, a first section and a second
21 section,

22 wherein, for each of the first and second blade
23 members, the first section is provided with a load for
24 providing weight balance adjustment,

25 wherein, for each of the first and second blade
26 members, the first and second sections are formed to
27 receive wind power of different magnitudes, and

28 wherein, for each of the first and second blade
29 members, the first section has a rotational momentum

30 generated by gravitational forces which is lower than that
31 of the second section.

Claim 2 (canceled)

1 Claim 3 (currently amended): The drive power apparatus
2 utilizing winds according to claim 1 ~~2~~, wherein:
3 ~~the first and second blade members are formed by the~~
4 ~~weight balance adjustment such that~~ the difference between
5 the rotation momentums generated on the first and second
6 sections by gravitational forces is, at most, ~~no higher~~
7 ~~than 0.2 times the higher one of the rotation momentum~~
8 ~~momentums~~ generated on the ~~first and second~~ section
9 ~~sections~~ by gravitational forces.

1 Claim 4 (previously presented): The drive power apparatus
2 utilizing winds according to claim 1, wherein:
3 a plurality of horizontal shafts are disposed as
4 respective stages on the vertical shaft at vertically
5 different positions thereof and in a predetermined angular
6 interval deviation from one another in the peripheral
7 direction of the vertical shaft.

1 Claim 5 (original): The drive power apparatus utilizing
2 winds according to claim 4, wherein:
3 the predetermined angle is obtained by dividing 180
4 degrees by the number of stages or a multiple of that
5 angle.

1 Claim 6 (original): The drive power apparatus utilizing
2 winds according to claim 5, wherein:
3 the horizontal shafts constituting the respective

4 stages are disposed helically.

1 Claim 7 (previously presented): The drive power apparatus
2 utilizing winds according to claim 1, which further
3 comprises a restricting mechanism for restricting the
4 rotation of each horizontal shaft to a range of 90 degrees,
5 and in which:

6 the restricting mechanism includes a first and a
7 second contact member provided on the horizontal shaft on
8 the opposite sides of the vertical shaft, and a first and a
9 second contactable member provided on the vertical shaft
10 and capable of being contacted by the first and second
11 contact members.

1 Claim 8 (previously presented): The drive power apparatus
2 utilizing winds according to claim 1, wherein:

3 the first and second blade members are provided with
4 shock absorbers.

1 Claim 9 (previously presented): The drive power apparatus
2 utilizing winds according to claim 1, which further
3 comprises:

4 stoppers projecting from the vertical shaft for
5 stopping the rotation of the first and second blade members
6 in contact with the first and second blade members.

1 Claim 10 (previously presented): The drive power apparatus
2 utilizing winds according to claim 1, wherein:

3 vertical shaft has bearings for alleviating frictional
4 resistance with respect to each horizontal shaft.

1 Claim 11 (previously presented): The drive power apparatus

2 according to claim 1, which further comprises:
3 a rotation setting mechanism for setting the direction
4 of rotation of the vertical shaft.

1 Claim 12 (original): The drive power apparatus utilizing
2 winds according to one of claim 11, wherein the rotation
3 setting mechanism includes:

4 a protuberance provided on each horizontal shaft; and
5 an engagement member for determining the direction of
6 rotation of the vertical shaft in engagement with the
7 protuberance.

1 Claim 13 (previously presented): The drive power apparatus
2 utilizing winds according to claim 1, which further
3 comprises:

4 oil hydraulic bumpers provided on each horizontal
5 shaft for setting the plate orientations of the first and
6 second blade members.

1 Claim 14 (currently amended): A plate-like blade member
2 used in the drive power apparatus utilizing winds according
3 to claim 1,

4 wherein each of the horizontal shaft crosses the first
5 and second blade members to define, in each of the first
6 and second blade members, a first section and a second
7 section,

8 wherein, for each of the first and second blade
9 members, the first section is provided with a load for
10 providing weight balance adjustment,

11 wherein, for each of the first and second blade
12 members, the first and second sections are formed to
13 receive wind power of different magnitudes, and

14 wherein, for each of the first and second blade
15 members, the first section has a rotational momentum
16 generated by gravitational forces which is lower than that
17 of the second section
18 ~~wherein:~~
19 ~~— denoting the two parts defined by the horizontal shaft~~
20 ~~to be a first and a second section, the first and second~~
21 ~~sections are formed such as to receive wind power of~~
22 ~~different magnitudes and are formed by providing a weight~~
23 ~~balance adjustment of providing a load on the side of the~~
24 ~~lower one of the rotation momentums generated on the first~~
25 ~~and second sections by gravitational forces.~~

1 Claim 15 (currently amended): The blade member according
2 to claim 14, wherein:

3 ~~the weight balance adjustment is made such that the~~
4 difference between the rotation momentums generated on the
5 first and second sections by gravitational forces is, at
6 most, ~~no higher than~~ 0.2 times ~~the higher one of the~~
7 rotation momentum ~~momentums~~ generated on the ~~first and~~
8 second section ~~sections~~ by gravitational forces.

1 Claim 16 (original): The blade member according to claim
2 15, wherein:

3 the rotation momentum difference is set by making the
4 weights per unit area of the first and second sections
5 different.

1 Claim 17 (original): The blade member according to claim
2 16, wherein:

3 the weights per unit area of the first and second
4 sections are made different by providing a load to either

5 one of the first and second sections.

1 Claim 18 (original): The blade member according to claim
2 16, wherein:

3 the weights per unit area of the first and second
4 sections are made different by forming the first and second
5 sections from materials of different specific gravities.

1 Claim 19 (original): The blade member according to claim
2 16, wherein:

3 the weights per unit area of the first and second
4 sections are made different by setting different
5 thicknesses of the first and second sections.

1 Claim 20 (original): The blade member according to claim
2 14, wherein:

3 for reducing the inertial momentum which is increased
4 at the time of the weight balance adjustment, the position
5 of the load disposed in the weight balance adjustment is
6 set to be within 0.1 times the width of the load provision
7 side member from each horizontal shaft.

1 Claim 21 (previously presented): The blade member
2 according to claim 14, which has an auxiliary wing
3 extending in a direction perpendicular to each horizontal
4 shaft.

1 Claim 22 (previously presented): The blade member
2 according to claim 1, which has grooves formed in its
3 surface.

1 Claim 23 (currently amended): A rotating member utilizing

2 winds comprising:

3 a vertical shaft disposed vertically and rotatably;
4 a rotatable horizontal shaft rotatably perpendicularly
5 penetrating the vertical shaft; and
6 a first and a second plate-like blade member provided
7 on the horizontal shaft on the opposite sides of the
8 vertical shaft;

9 wherein the first and second blade members are secured
10 to the horizontal shaft such that their plane orientations
11 are deviated from each other by an angle of 90 degrees in
12 the peripheral direction of the horizontal shaft, and are
13 rocked about the horizontal shaft in an interlocked
14 relation to each other between the vertical and horizontal
15 directions,

16 wherein each of the horizontal shaft crosses the first
17 and second blade members to define, in each of the first
18 and second blade members, a first section and a second
19 section,

20 wherein, for each of the first and second blade
21 members, the first section is provided with a load for
22 providing weight balance adjustment,

23 wherein, for each of the first and second blade
24 members, the first and second sections are formed to
25 receive wind power of different magnitudes, and

26 wherein, for each of the first and second blade
27 members, the first section has a rotational momentum
28 generated by gravitational forces which is lower than that
29 of the second section.

Claim 24 (canceled)

1 Claim 25 (currently amended): The rotating member

2 utilizing winds according to claim 23 ~~24~~, wherein:
3 ~~the first and second blade members are formed by the~~
4 ~~weight balance adjustment such that~~ the difference between
5 the rotation momentums generated on the first and second
6 sections by gravitational forces is, at most, ~~no higher~~
7 ~~than~~ 0.2 times ~~the higher one of~~ the rotation momentum
8 ~~momentums~~ generated on the ~~first and second~~ section
9 ~~sections~~ by gravitational forces.

1 Claim 26 (previously presented): The rotating member
2 utilizing winds according to claim 23, wherein:
3 a plurality of horizontal shafts are disposed as
4 respective stages on the vertical shaft at vertically
5 different positions thereof and in a predetermined angular
6 interval deviation from one another in the peripheral
7 direction of the vertical shaft.

1 Claim 27 (original): The rotating member utilizing winds
2 according to claim 26, wherein:
3 the predetermined angle is obtained by dividing 180
4 degrees by the number of stages or a multiple of that
5 angle.

1 Claim 28 (original): The rotating member utilizing winds
2 according to claim 27, wherein:
3 the horizontal shafts constituting the respective
4 stages are disposed helically.

1 Claim 29 (previously presented): The rotating member
2 utilizing winds according to claim 23, which further
3 comprises a restricting mechanism for restricting the
4 rotation of each horizontal shaft to a range of 90 degrees,

5 and in which:
6 the restricting mechanism includes a first and a
7 second contact member provided on the horizontal shaft on
8 the opposite sides of the vertical shaft, and a first and a
9 second contactable member provided on the vertical shaft
10 and capable of being contacted by the first and second
11 contact members.

1 Claim 30 (previously presented): The rotating member
2 utilizing winds according to claim 23, wherein:
3 the first and second blade members are provided with
4 shock absorbers.

1 Claim 31 (previously presented): The rotating member
2 utilizing winds according to claim 23, which further
3 comprises:
4 stoppers projecting from the vertical shaft for
5 stopping the rotation of the first and second blade members
6 in contact with the first and second blade members.

1 Claim 32 (previously presented): The rotating member
2 utilizing winds according to claim 23, wherein:
3 vertical shaft has bearings for alleviating frictional
4 resistance with respect to each horizontal shaft.

1 Claim 33 (previously presented): The rotating member
2 utilizing winds according to claim 23, which further
3 comprises:
4 a rotation setting mechanism for setting the direction
5 of rotation of the vertical shaft.

1 Claim 34 (original): The rotating member utilizing winds

2 according to claim 33, wherein the rotation setting
3 mechanism includes:
4 a protuberance provided on each horizontal shaft; and
5 an engagement member for determining the direction of
6 rotation of the vertical shaft in engagement with the
7 protuberance.

1 Claim 35 (previously presented): The rotating member
2 utilizing winds according to claim 23, which further
3 comprises:
4 oil hydraulic bumpers provided on each horizontal
5 shaft for setting the plate orientations of the first and
6 second blade members.